

**ADMINISTRATIVE  
RECORD**

# **Addendum to the Response Action Work Plan Flower Creek Removal Plan Libby, Montana**

## **1.0 Introduction**

This addendum to the Response Action Work Plan Revision 2 (RAWP) (CDM Federal Programs Corporation [CDM] 2008) includes creek-specific characterization data. Specific remedial activities to be performed along this creek are detailed on the following Contract Drawings:

- Flower Creek Site Location Plan (SL-1)
- Flower Creek Site Access Plans (SA-1 through SA-6)
- Flower Creek Remediation and Restoration Plans (RR-1 through RR-6)
- Flower Creek General Notes (G-1)
- Flower Creek Detail Plan (D-1)

Removal and restoration activities will be conducted in accordance with the RAWP Revision 2 and this RAWP Addendum, forthwith referred to as the Contract Documents. All project quality assurance and quality control requirements for measurement reports will be addressed in a future data summary report.

## **2.0 General Information**

- Only government-authorized personnel will be permitted on site during the removal and restoration activities. For public safety, residents that may be displaced will not be allowed to return to their property unless given permission or accompanied by a government representative. If the resident returns to their property without prior approval, their relocation agreement with the government will be nullified and per diem and hotel costs will not be paid. If an emergency arises and the resident **requires items from inside the house** (medication, etc.) they should contact their **Community Involvement Coordinator** at 293-1433 for arrangements to be made to retrieve the item.
- CDM staff will **maintain all unoccupied properties**, which include but are not limited to, **feeding fish and/or cats daily and watering indoor plants weekly**, until the resident is allowed to return to the property.
- Areas restored along the creek embankments will be composed primarily of riprap material and should not require landscaping maintenance.

- If the owner or resident has questions or concerns, he or she should contact the Community Involvement Coordinator at 293-1433.

### **3.0 Background Information**

Flower Creek is centrally located in the city of Libby, Montana and discharges runoff from local forested, rural, and urban areas to the Kootenai River. Headwaters of the creek originate within the Cabinet Mountain Wilderness. In addition, Flower Creek is located approximately 1.25 miles west of Granite Creek, which contains similar fish and wildlife habitat. Embankment rehabilitation is planned during the summer of 2008 by the United States Army Corps of Engineers (USACE) for Granite Creek.

Several investigations were completed along the 2.5-mile section of Flower Creek adjacent to residential and commercial properties that flow through the Libby municipality. This portion of the creek is predominantly comprised of washed river rock, native vegetation, and other native fill materials.

The spatial boundaries of the investigations were as follows:

- Upstream Limit: Southern property boundary of 823 Flower Creek Road
- Downstream Limit: Outlet to the Kootenai River

A summary of the findings from investigations performed by CDM in 2007 and 2008 are as follows:

- Vermiculite was observed in Areas A through N during the site inspection using Standard Operating Procedure CDM Libby-06. These areas are primarily composed of riprap material and loose gravel.
- Vermiculite was not observed along portions of the creek bank between known areas with contamination and downstream of the Balsam Street Bridge.
- The focus of the field investigation along Flower Creek was to determine presence of vermiculite and amphibole along the embankments. Due to the limited quantities of soil available, no soil samples were collected or analyzed for Libby Amphibole (LA).

### **4.0 Remediation and Restoration**

Remediation and restoration activities will be performed as described on the contract drawings. Site activities will consist of the following:

- Contractor will access contaminated material areas via adjacent residential properties. Some clearing may be required.
- All excavation activities within the approximate location of contaminated material will be completed as directed by the government representative. Exact location of contaminated material may vary from contract drawings and will be verified in field.

- Remediation will include the excavation and proper disposal of all identified riprap and soil material.
- Excavation activities may be required outside of the approximate location of contaminated material. Any additional excavation activities will be directed by the government representative.
- Restoration activities will be performed after remedial activities and confirmation soil sampling has been completed, in accordance with the RAWP Revision 2.
- Restoration will include backfilling all affected areas with appropriate fill material, as discussed in the contract drawings and as directed by the government representative.

## 5.0 Environmental Impacts

At this time, a biological evaluation (BE) has not been completed within the reach where contaminated material has been identified. Due to the close proximity to and similarities in fish and wildlife habitat with Granite Creek, all construction work will follow the best management practices (BMP's) established within the BE completed for Granite Creek (USACE 2008) and as discussed in the Project Information Report for Granite Creek (USACE 2007). A biologist will not be onsite or available during construction. Visual monitoring of water quality will be performed; however, no water quality sampling will be conducted.

Remedial activities will consist of the removal and restoration of contaminated material at varying depths from both embankments along several segments of Flower Creek upstream of the Balsam Street Bridge. In addition, several boulders containing contaminated material will be removed from the creek bed. Construction work will be performed within the work window of July 15 to August 31, as established by the Montana Fish, Wildlife and Parks and US Fish and Wildlife Service to coincide with when aquatic species of concern, including bull trout, are least likely to be in the area.

By adhering to these construction BMP's, it is expected that adverse effects to the creek are not likely to occur and that a post-evaluation will not be necessary.

## 6.0 References

CDM 2008. Response Action Work Plan Revision 2, U.S. Environmental Protection Agency (EPA) Libby Asbestos Project, Libby, Montana. Prepared for EPA by Volpe and CDM. February.

USACE 2007. Project Information Report Rehabilitation of Damaged Flood Control Works, Seattle District, Granite Creek, Libby, Montana. Prepared by USACE. November.

\_\_\_\_\_. 2008. Biological Evaluation, 2008 Levee Rehabilitation Program, Big Cherry Creek (Granite Creek Levee), Lincoln County, Montana. March.

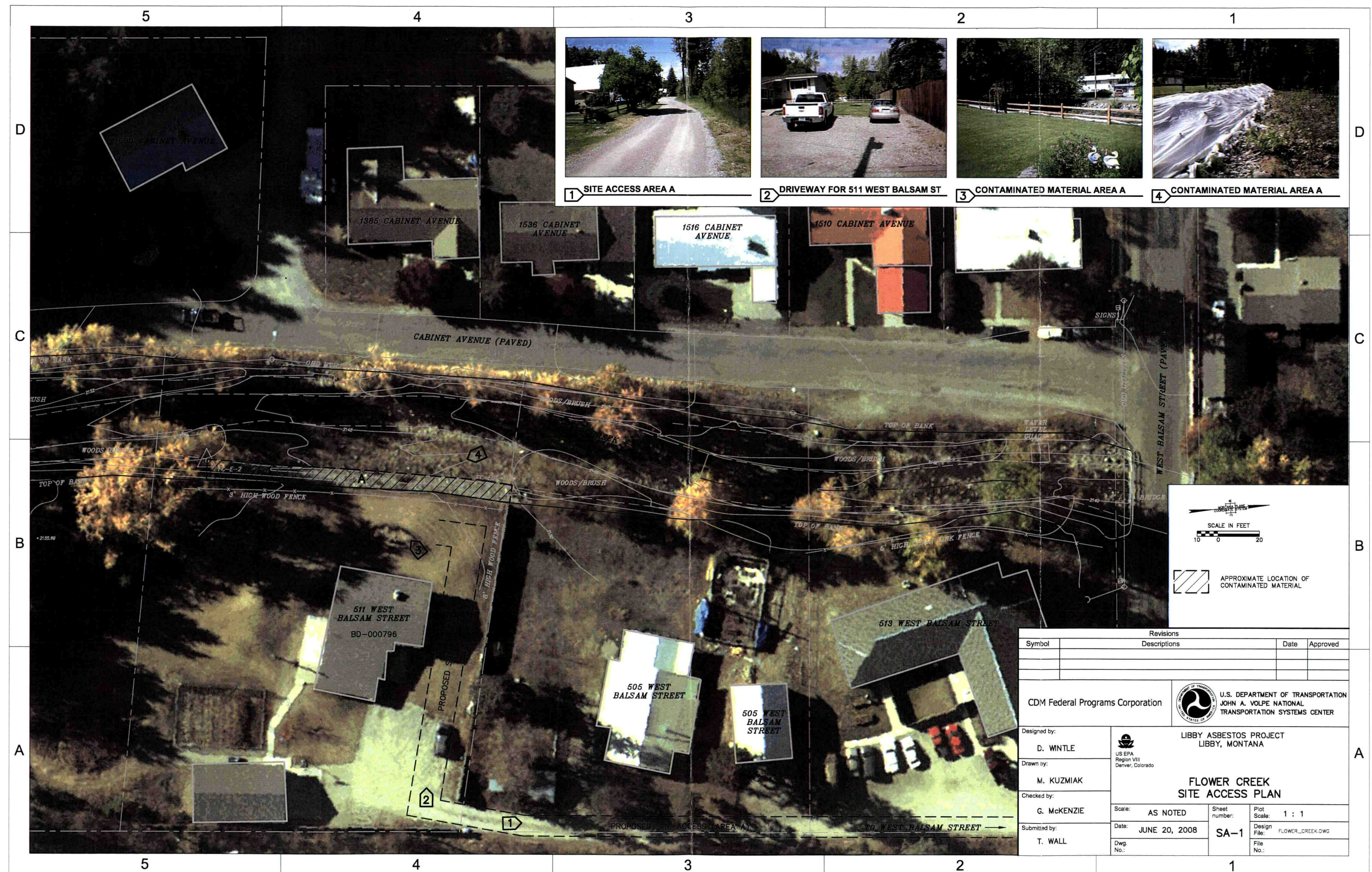




EXCAVATION QUANTITIES & CONTAMINATION BOUNDARY						
LEFT BANK						
AREA DESIGNATION	ESTIMATED IN-PLACE VOLUME (yd³)	UPSTREAM BOUNDARY		DOWNSTREAM BOUNDARY		
		NORTHING (ft)	EASTING (ft)	NORTHING (ft)	EASTING (ft)	
B	20	1561924.3020	497083.7736	1562055.4220	496992.9156	
D	250	1560967.3110	497250.5043	1561075.1070	497176.6955	
F	10	1560329.5980	497408.6685	1560551.6190	497411.8984	
G	100	1560247.5770	497457.5566	1560314.5380	497445.7644	
H	10	1560211.4380	497487.9521	1560274.4530	497476.6818	
K	10	1559878.8490	497684.9118	1559958.9270	497639.7262	
L	10	1559762.1730	497716.7173	-	-	
M	70	1559511.6440	497703.5751	1559884.7550	497708.7347	
N	100	1559234.5380	497690.1088	1559387.0230	497725.4940	
RIGHT BANK						
AREA DESIGNATION	ESTIMATED IN-PLACE VOLUME (yd³)	UPSTREAM BOUNDARY		DOWNSTREAM BOUNDARY		
		NORTHING (ft)	EASTING (ft)	NORTHING (ft)	EASTING (ft)	
A	200	1563281.1360	497046.6225	1563427.4460	497071.0643	
C	200	1561213.5590	497232.2750	1561358.1530	497228.9527	
E	300	1560916.0310	497431.3373	1561032.5320	497327.9216	
J	400	1559698.4360	497766.7068	1559940.6550	497691.2406	
CENTER						
AREA DESIGNATION	ESTIMATED IN-PLACE VOLUME (yd³)	UPSTREAM BOUNDARY		DOWNSTREAM BOUNDARY		
		NORTHING (ft)	EASTING (ft)	NORTHING (ft)	EASTING (ft)	
I	10	-	-	-	-	
TOTAL		1690				

Symbol	Revisions	Date	Approved
	Descriptions		
CDM Federal Programs Corporation		U.S. DEPARTMENT OF TRANSPORTATION JOHN A. VOLPE NATIONAL TRANSPORTATION SYSTEMS CENTER	
Designed by: D. WINTLE	LIBBY ASBESTOS PROJECT LIBBY, MONTANA	FLOWER CREEK SITE LOCATION PLAN	
Drawn by: M. KUZMAK	US EPA Region VIII Denver, Colorado		
Checked by: G. MCKENZIE	Scale: AS NOTED	Sheet number: SL-1	Plot Scale: 1 : 1
Submitted by: T. WALL	Date: JUNE 20, 2008	Design File: FLOWER_CREEK.DWG	File No.:





1 SITE ACCESS AREA A





2 DRIVEWAY FOR 511 WEST BALSAM ST



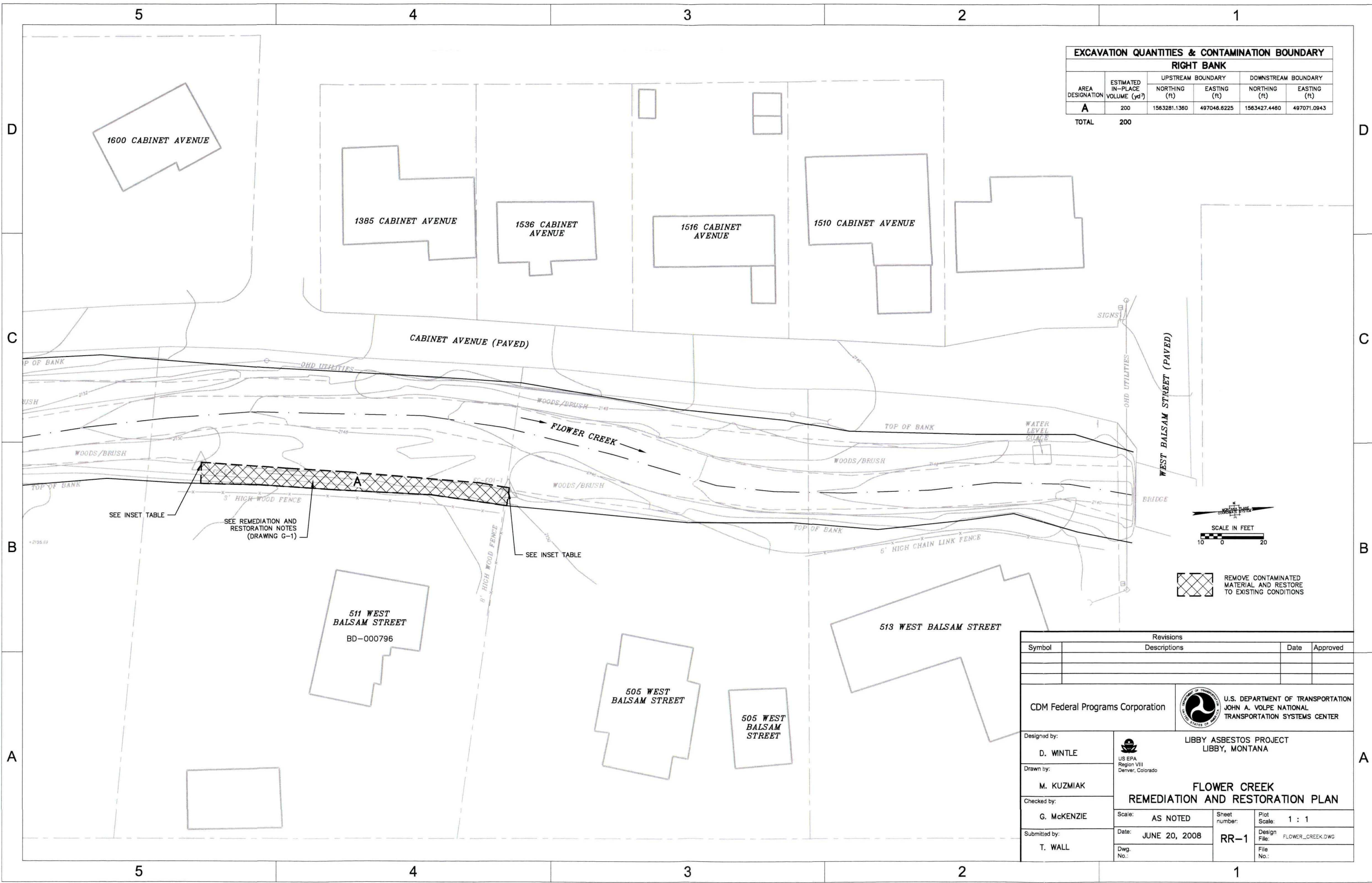
3 CONTAMINATED MATERIAL AREA A



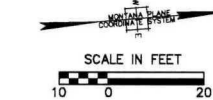
4 CONTAMINATED MATERIAL AREA A

Revisions			
Symbol	Descriptions	Date	Approved
CDM Federal Programs Corporation		<div>U.S. DEPARTMENT OF TRANSPORTATION JOHN A. VOLPE NATIONAL TRANSPORTATION SYSTEMS CENTER</div>	
Designed by:  D. WINTLE	<div>LIBBY ASBESTOS PROJECT LIBBY, MONTANA</div> <div>US EPA Region VIII Denver, Colorado</div> <div>FLOWER CREEK SITE ACCESS PLAN</div>		
Drawn by:  M. KUZMIAK			
Checked by:  G. MCKENZIE			
Submitted by:  T. WALL			
Scale: AS NOTED	Sheet number: SA-1	Plot Scale: 1 : 1	Design File: FLOWER_CREEK.DWG
Date: JUNE 20, 2008	Dwg. No.:	File No.:	






EXCAVATION QUANTITIES & CONTAMINATION BOUNDARY					
RIGHT BANK					
AREA DESIGNATION	ESTIMATED IN-PLACE VOLUME (yd <sup>3</sup> )	UPSTREAM BOUNDARY		DOWNSTREAM BOUNDARY	
		NORTHING (ft)	EASTING (ft)	NORTHING (ft)	EASTING (ft)
A	200	1563281.1360	497046.6225	1563427.4460	497071.0943
TOTAL	200				



 REMOVE CONTAMINATED MATERIAL AND RESTORE TO EXISTING CONDITIONS

Revisions			
Symbol	Descriptions	Date	Approved
CDM Federal Programs Corporation		<div><div>U.S. DEPARTMENT OF TRANSPORTATION JOHN A. VOLPE NATIONAL TRANSPORTATION SYSTEMS CENTER</div></div>	
Designed by:  D. WINTLE	<div><div>LIBBY ASBESTOS PROJECT LIBBY, MONTANA</div></div> <div>FLOWER CREEK REMEDIATION AND RESTORATION PLAN</div>		
Drawn by:  M. KUZMAIK			
Checked by:  G. McKENZIE			
Submitted by:  T. WALL			
Scale: AS NOTED		Sheet number: RR-1	Plot Scale: 1 : 1
Date: JUNE 20, 2008		Dwg. No.:	Design File: FLOWER_CREEK.DWG
Dwg. No.:			File No.:





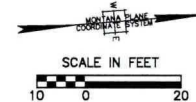
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2 CONTAMINATED MATERIAL AREA B



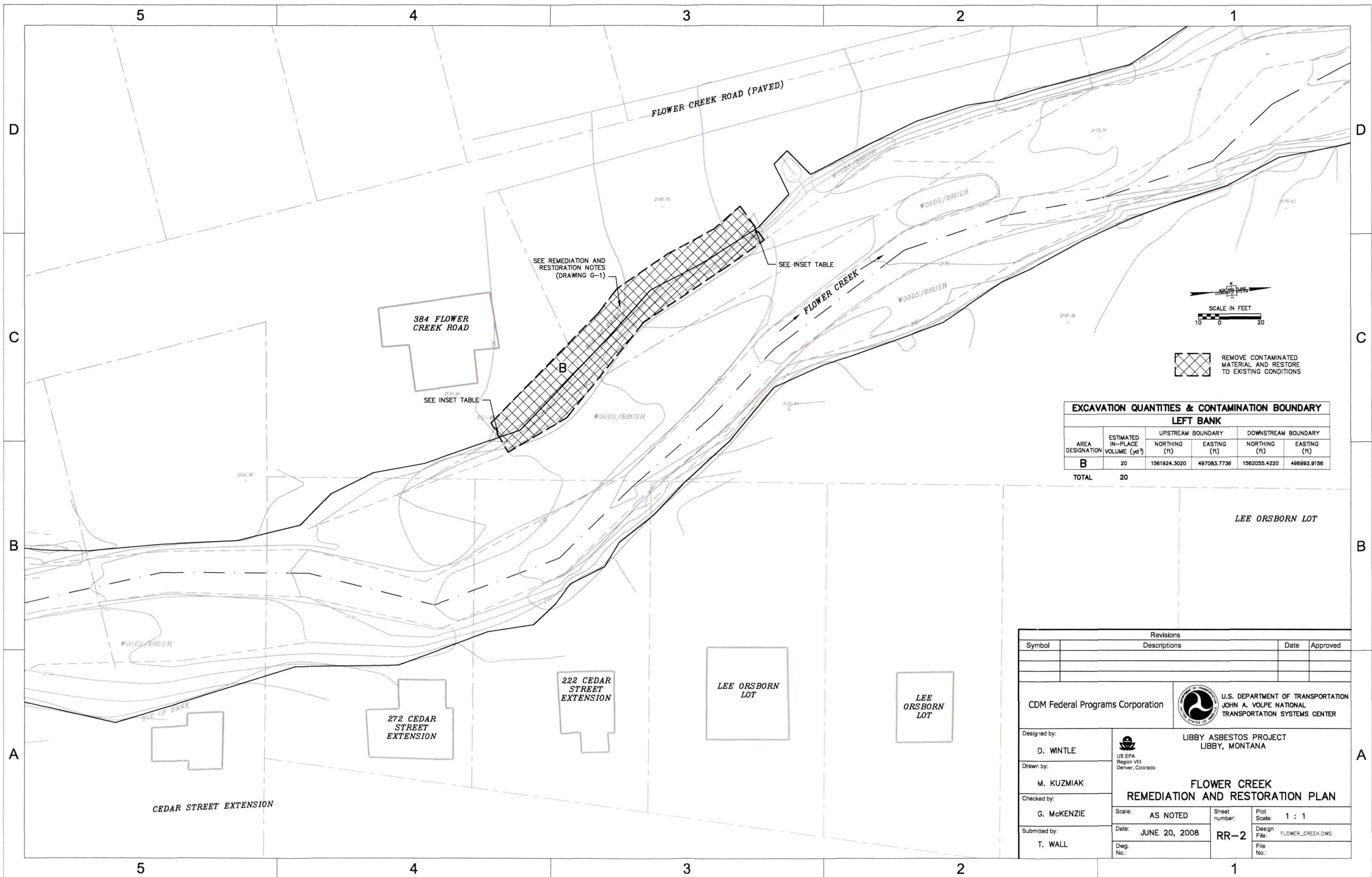
3 CONTAMINATED MATERIAL AREA B





APPROXIMATE LOCATION OF CONTAMINATED MATERIAL

Revisions			
Symbol	Descriptions	Date	Approved
CDM Federal Programs Corporation		<div><div>U.S. DEPARTMENT OF TRANSPORTATION JOHN A. VOLPE NATIONAL TRANSPORTATION SYSTEMS CENTER</div></div>	
Designed by:  D. WINTLE		<div><div>LIBBY ASBESTOS PROJECT LIBBY, MONTANA</div></div> <div>US EPA Region VIII Denver, Colorado</div> <div>FLOWER CREEK SITE ACCESS PLAN</div>	
Drawn by:  M. KUZMAK			
Checked by:  G. MCKENZIE			
Submitted by:  T. WALL			
Scale:  AS NOTED		Sheet number:  SA-2	Plot Scale:  1 : 1
Date:  JUNE 20, 2008		Design File:  FLOWER_CREEK.DWG	File No.:
Dwg. No.:			

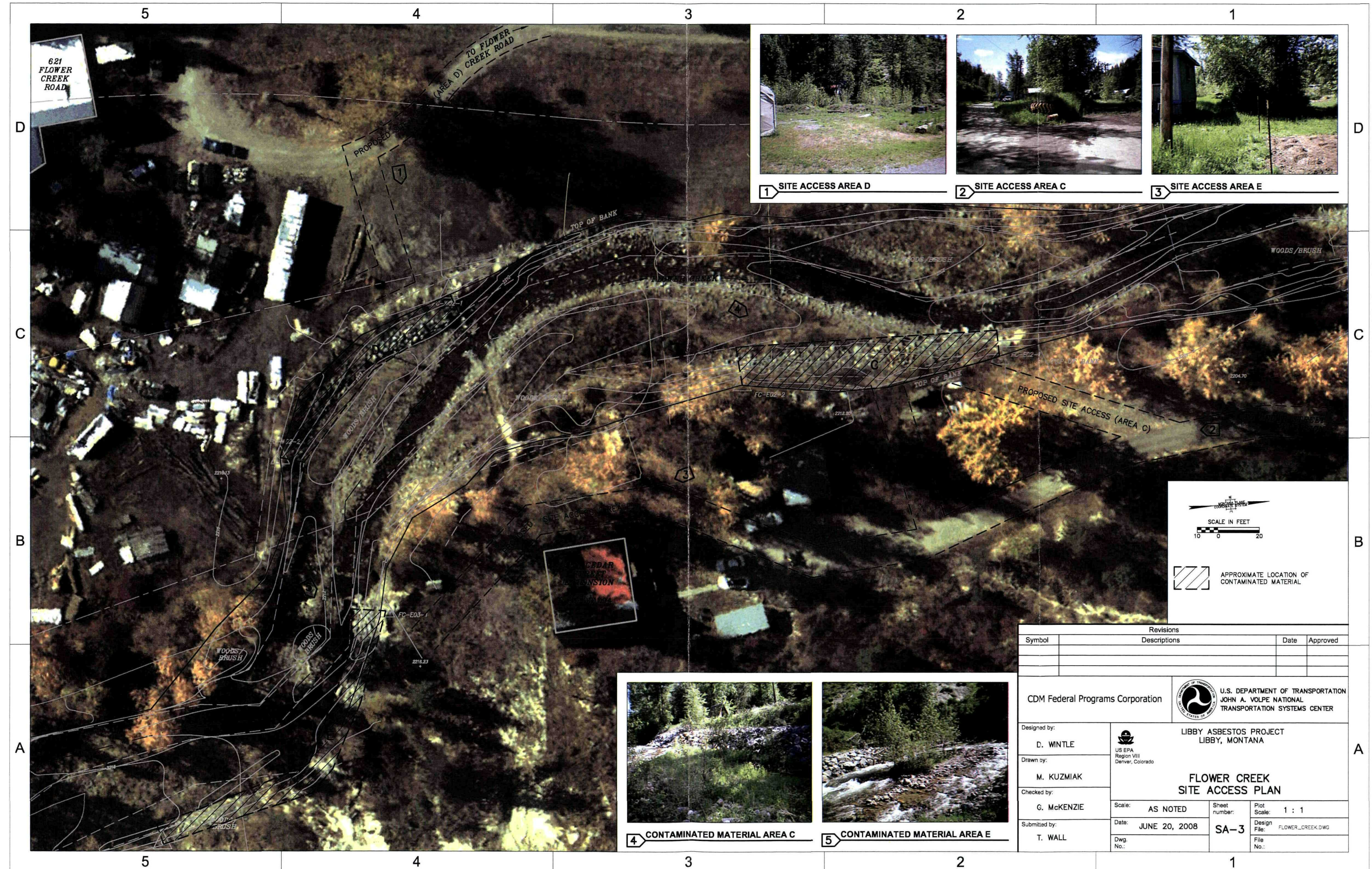




EXCAVATION QUANTITIES & CONTAMINATION BOUNDARY					
LEFT BANK					
AREA DESIGNATION	ESTIMATED IN-PLACE VOLUME (yd³)	UPSTREAM BOUNDARY		DOWNSTREAM BOUNDARY	
		NORTHING (ft)	EASTING (ft)	NORTHING (ft)	EASTING (ft)
B	20	1561924.3020	497083.7736	1562055.4220	496992.9156
TOTAL	20				

Revisions			
Symbol	Descriptions	Date	Approved
CDM Federal Programs Corporation		 U.S. DEPARTMENT OF TRANSPORTATION JOHN A. VOLPE NATIONAL TRANSPORTATION SYSTEMS CENTER	
Designed by: D. WINTLE	 US EPA Region VIII Denver, Colorado	LIBBY ASBESTOS PROJECT LIBBY, MONTANA	
Drawn by: M. KUZMAK		<b>FLOWER CREEK REMEDIATION AND RESTORATION PLAN</b>	
Checked by: G. McKENZIE	Scale: AS NOTED	Sheet number: RR-2	Plot Scale: 1 : 1
Submitted by: T. WALL	Date: JUNE 20, 2008	Dwg. No.:	Design File: FLOWER_CREEK.DWG
			File No.:





1 SITE ACCESS AREA D



2 SITE ACCESS AREA C



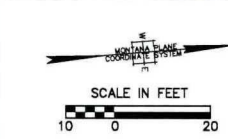
3 SITE ACCESS AREA E



4 CONTAMINATED MATERIAL AREA C



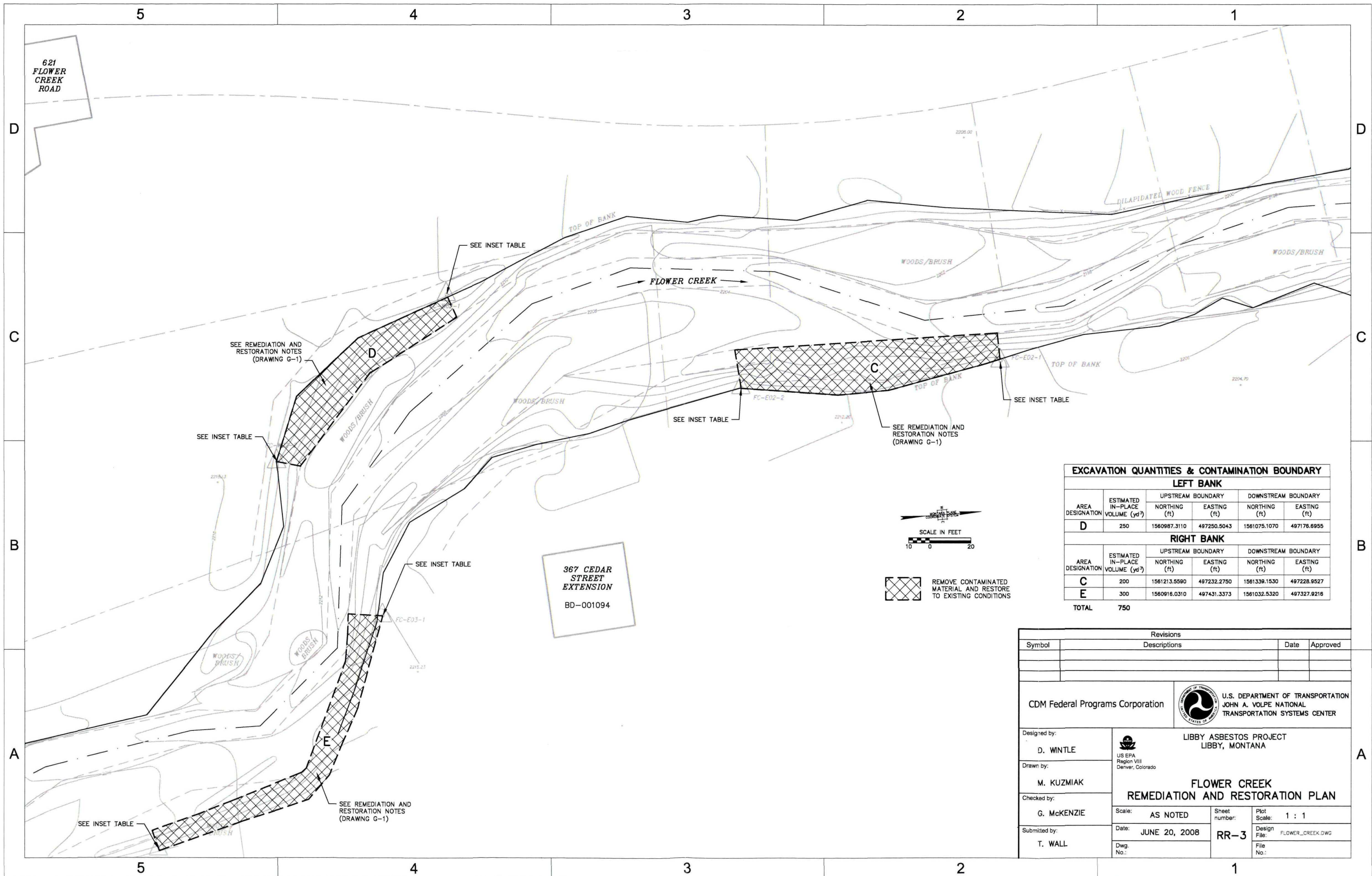
5 CONTAMINATED MATERIAL AREA E




APPROXIMATE LOCATION OF CONTAMINATED MATERIAL

Revisions			
Symbol	Descriptions	Date	Approved
CDM Federal Programs Corporation		U.S. DEPARTMENT OF TRANSPORTATION JOHN A. VOLPE NATIONAL TRANSPORTATION SYSTEMS CENTER	
Designed by: D. WINTLE	US EPA Region VIII Denver, Colorado	LIBBY ASBESTOS PROJECT LIBBY, MONTANA	
Drawn by: M. KUZMAK		FLOWER CREEK SITE ACCESS PLAN	
Checked by: G. MCKENZIE		Scale: AS NOTED	Sheet number: SA-3
Submitted by: T. WALL	Date: JUNE 20, 2008	Dwg. No.:	Plot Scale: 1 : 1
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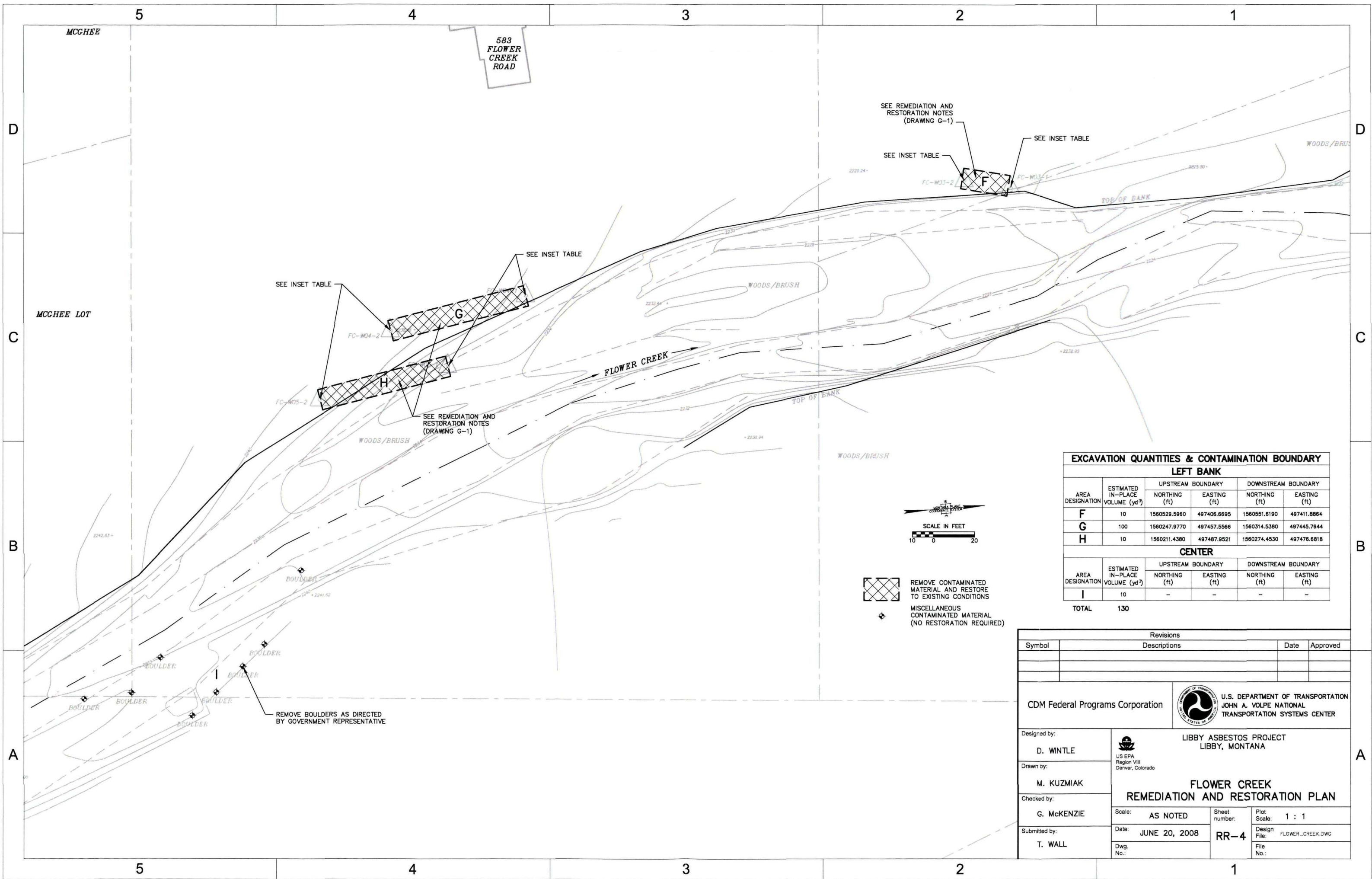
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LEFT BANK					
AREA DESIGNATION	ESTIMATED IN-PLACE VOLUME (yd³)	UPSTREAM BOUNDARY		DOWNSTREAM BOUNDARY	
		NORTHING (ft)	EASTING (ft)	NORTHING (ft)	EASTING (ft)
D	250	1560987.3110	497250.5043	1561075.1070	497176.6955
RIGHT BANK					
AREA DESIGNATION	ESTIMATED IN-PLACE VOLUME (yd³)	UPSTREAM BOUNDARY		DOWNSTREAM BOUNDARY	
		NORTHING (ft)	EASTING (ft)	NORTHING (ft)	EASTING (ft)
C	200	1561213.5590	497232.2750	1561339.1530	497228.9527
E	300	1560916.0310	497431.3373	1561032.5320	497327.9216
TOTAL	750				

Revisions			
Symbol	Descriptions	Date	Approved
CDM Federal Programs Corporation		 U.S. DEPARTMENT OF TRANSPORTATION JOHN A. VOLPE NATIONAL TRANSPORTATION SYSTEMS CENTER	
Designed by: D. WINTLE	 US EPA Region VIII Denver, Colorado	LIBBY ASBESTOS PROJECT LIBBY, MONTANA	
Drawn by: M. KUZMAK		FLOWER CREEK REMEDIATION AND RESTORATION PLAN	
Checked by: G. McKENZIE	Scale: AS NOTED	Sheet number: RR-3	Plot Scale: 1 : 1
Submitted by: T. WALL	Date: JUNE 20, 2008	Design File: FLOWER_CREEK.DWG	File No.:
	Dwg. No.:		









EXCAVATION QUANTITIES & CONTAMINATION BOUNDARY					
LEFT BANK					
AREA DESIGNATION	ESTIMATED IN-PLACE VOLUME (yd <sup>3</sup> )	UPSTREAM BOUNDARY		DOWNSTREAM BOUNDARY	
		NORTHING (ft)	EASTING (ft)	NORTHING (ft)	EASTING (ft)
F	10	1560529.5960	497406.6695	1560551.6190	497411.8864
G	100	1560247.9770	497457.5566	1560314.5380	497445.7644
H	10	1560211.4380	497487.9521	1560274.4530	497476.6818
CENTER					
AREA DESIGNATION	ESTIMATED IN-PLACE VOLUME (yd <sup>3</sup> )	UPSTREAM BOUNDARY		DOWNSTREAM BOUNDARY	
		NORTHING (ft)	EASTING (ft)	NORTHING (ft)	EASTING (ft)
I	10	-	-	-	-
TOTAL		130			

Revisions					
Symbol	Descriptions	Date	Approved		
CDM Federal Programs Corporation		U.S. DEPARTMENT OF TRANSPORTATION JOHN A. VOLPE NATIONAL TRANSPORTATION SYSTEMS CENTER			
Designed by: <b>D. WINTLE</b>	LIBBY ASBESTOS PROJECT LIBBY, MONTANA				
Drawn by: <b>M. KUZMAK</b>	<b>FLOWER CREEK REMEDIATION AND RESTORATION PLAN</b>				
Checked by: <b>G. MCKENZIE</b>					
Submitted by: <b>T. WALL</b>	Scale: <b>AS NOTED</b>	Sheet number: <b>RR-4</b>	Plot Scale: <b>1 : 1</b>		
	Date: <b>JUNE 20, 2008</b>	Design File: <b>FLOWER_CREEK.DWG</b>	File No.: <b> </b>		
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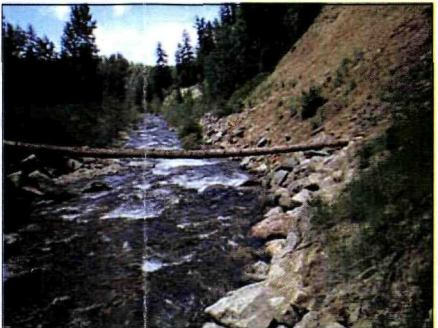
1 SITE ACCESS AREA K



2 CONTAMINATED MATERIAL AREA I AND J



3 SITE ACCESS AREA L





4 CONTAMINATED MATERIAL AREA J AND L

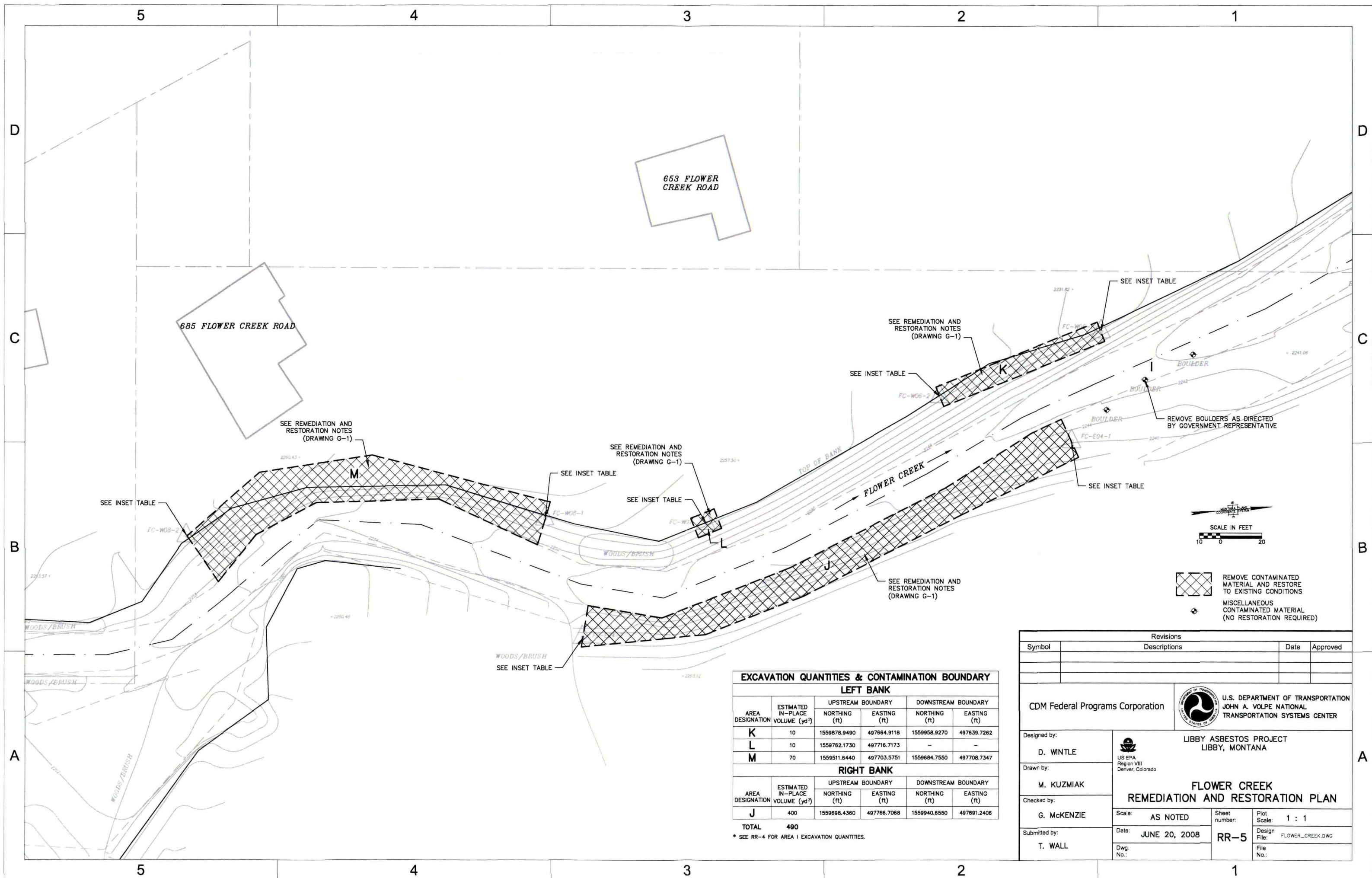


5 SITE ACCESS AREA M

Revisions			
Symbol	Descriptions	Date	Approved

CDM Federal Programs Corporation		 U.S. DEPARTMENT OF TRANSPORTATION JOHN A. VOLPE NATIONAL TRANSPORTATION SYSTEMS CENTER	
Designed by: D. WINTLE	 US EPA Region VIII Denver, Colorado	LIBBY ASBESTOS PROJECT LIBBY, MONTANA	
Drawn by: M. KUZMAK		FLOWER CREEK SITE ACCESS PLAN	
Checked by: G. MCKENZIE	Scale: AS NOTED	Sheet number: SA-5	Plot Scale: 1 : 1
Submitted by: T. WALL	Date: JUNE 20, 2008	Design File: FLOWER_CREEK.DWG	File No.:



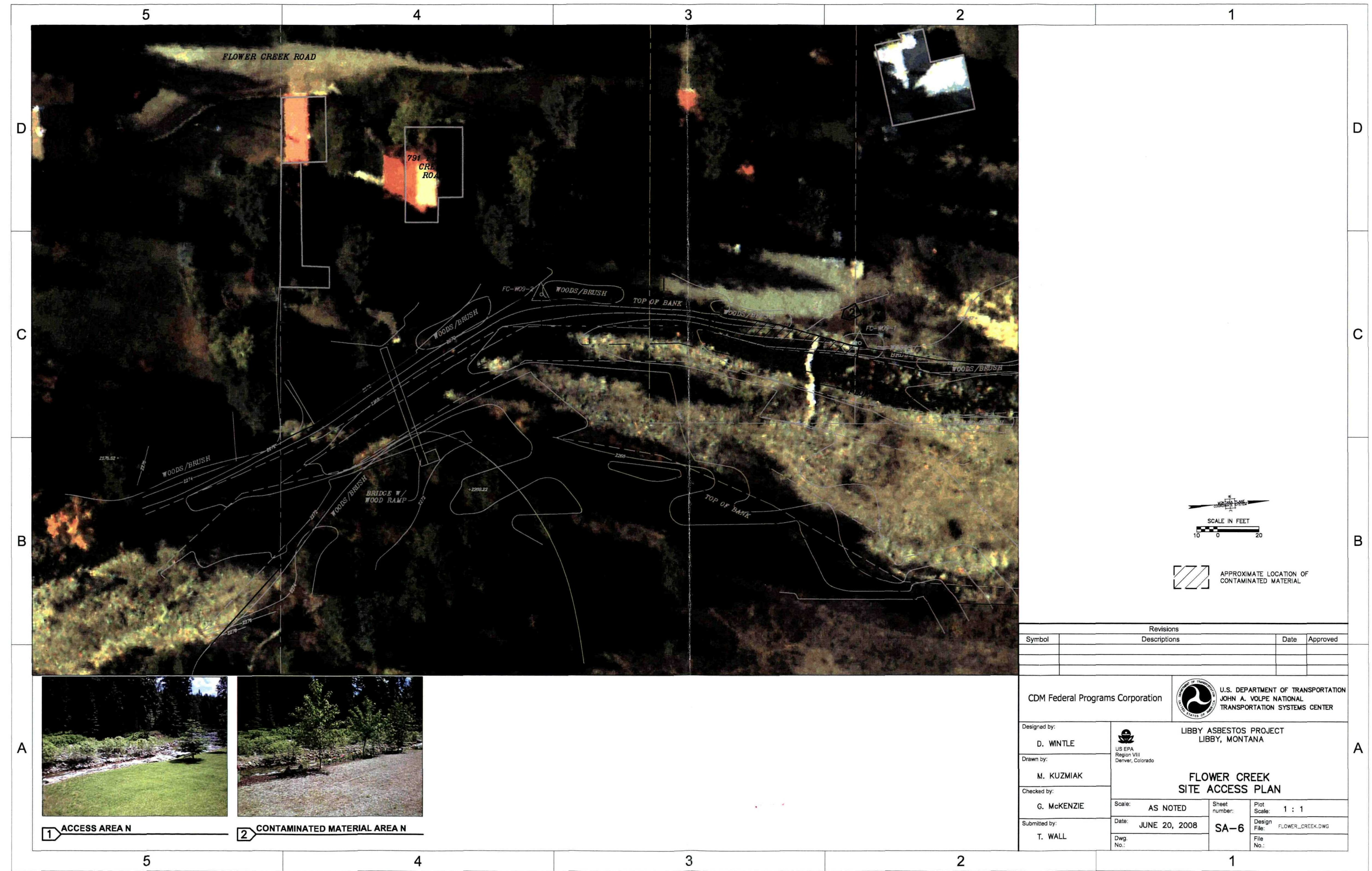


EXCAVATION QUANTITIES & CONTAMINATION BOUNDARY					
LEFT BANK					
AREA DESIGNATION	ESTIMATED IN-PLACE VOLUME (yd³)	UPSTREAM BOUNDARY		DOWNSTREAM BOUNDARY	
		NORTHING (ft)	EASTING (ft)	NORTHING (ft)	EASTING (ft)
K	10	1559878.9490	497864.9118	1559958.9270	497639.7282
L	10	1559762.1730	497716.7173	-	-
M	70	1559511.6440	497703.5751	1559684.7550	497708.7347
RIGHT BANK					
AREA DESIGNATION	ESTIMATED IN-PLACE VOLUME (yd³)	UPSTREAM BOUNDARY		DOWNSTREAM BOUNDARY	
		NORTHING (ft)	EASTING (ft)	NORTHING (ft)	EASTING (ft)
J	400	1559698.4360	497766.7068	1559940.6550	497691.2406
TOTAL		490			

\* SEE RR-4 FOR AREA J EXCAVATION QUANTITIES.


Revisions					
Symbol	Descriptions	Date	Approved		
CDM Federal Programs Corporation		U.S. DEPARTMENT OF TRANSPORTATION JOHN A. VOLPE NATIONAL TRANSPORTATION SYSTEMS CENTER			
Designed by: <b>D. WINTLE</b>	LIBBY ASBESTOS PROJECT LIBBY, MONTANA				
Drawn by: <b>M. KUZMAK</b>	US EPA Region VIII Denver, Colorado				
Checked by: <b>G. McKENZIE</b>	<b>FLOWER CREEK REMEDIATION AND RESTORATION PLAN</b>				
Submitted by: <b>T. WALL</b>	Scale: <b>AS NOTED</b>	Sheet number: <b>RR-5</b>	Plot Scale: <b>1 : 1</b>		
	Date: <b>JUNE 20, 2008</b>	Design File: <b>FLOWER_CREEK.DWG</b>	File No.: <b> </b>		
	Dwg. No.: <b> </b>				





Revisions			
Symbol	Descriptions	Date	Approved

CDM Federal Programs Corporation


 U.S. DEPARTMENT OF TRANSPORTATION  
JOHN A. VOLPE NATIONAL  
TRANSPORTATION SYSTEMS CENTER

Designed by:  
**D. WINTLE**

Drawn by:  
**M. KUZMAK**

Checked by:  
**G. McKENZIE**

Submitted by:  
**T. WALL**

 US EPA  
Region VIII  
Denver, Colorado

**LIBBY ASBESTOS PROJECT  
LIBBY, MONTANA**

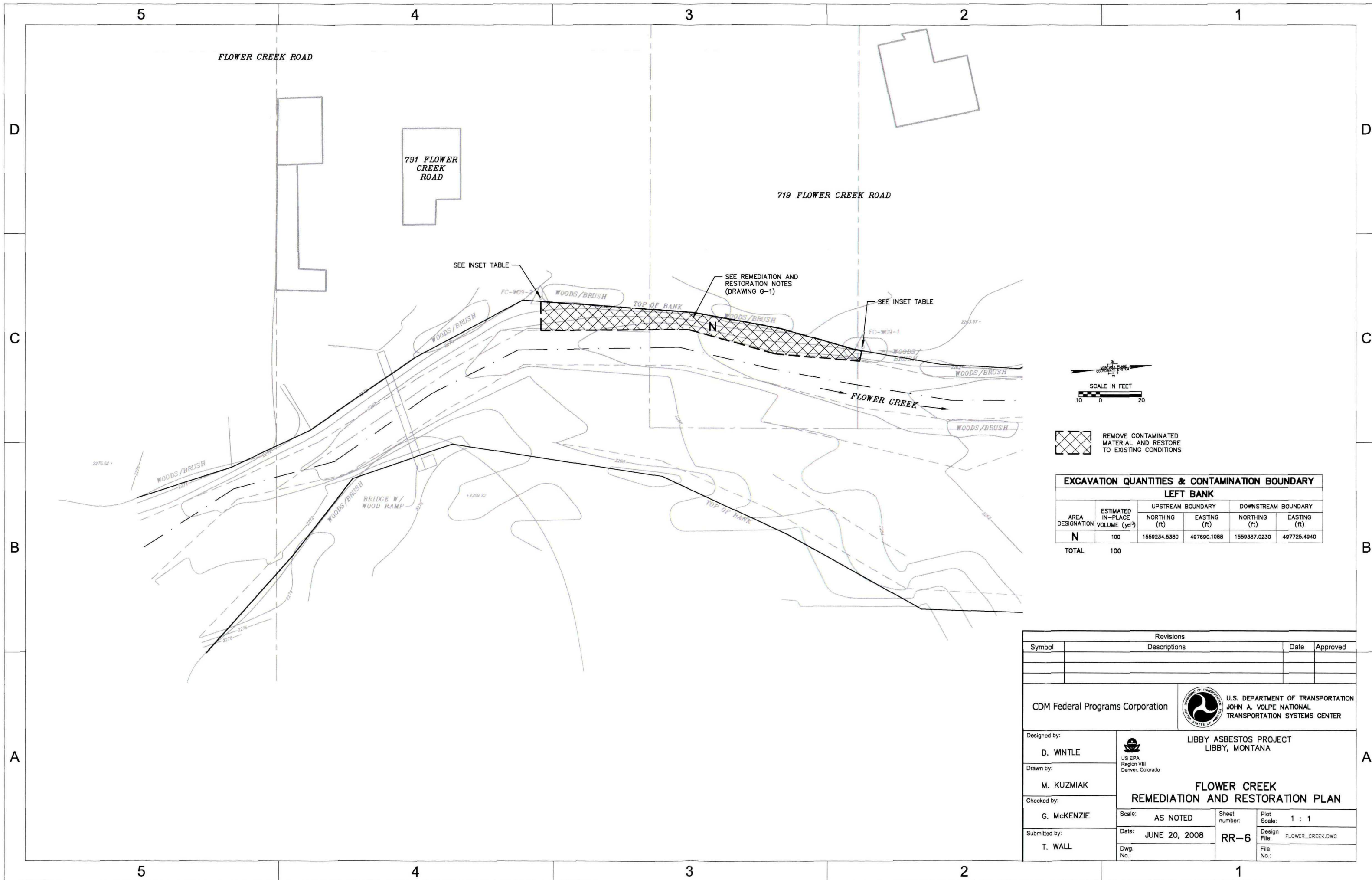
**FLOWER CREEK  
SITE ACCESS PLAN**

Scale: **AS NOTED**  
Date: **JUNE 20, 2008**  
Dwg. No.:

Sheet number:  
**SA-6**

Plot Scale: **1 : 1**  
Design File: **FLOWER\_CREEK.DWG**  
File No.:





EXCAVATION QUANTITIES & CONTAMINATION BOUNDARY

LEFT BANK					
AREA DESIGNATION	ESTIMATED IN-PLACE VOLUME (yd <sup>3</sup> )	UPSTREAM BOUNDARY		DOWNSTREAM BOUNDARY	
		NORTHING (ft)	EASTING (ft)	NORTHING (ft)	EASTING (ft)
N	100	1559234.5380	497690.1088	1559387.0230	497725.4940
TOTAL	100				

Revisions					
Symbol	Descriptions	Date	Approved		
CDM Federal Programs Corporation		 U.S. DEPARTMENT OF TRANSPORTATION JOHN A. VOLPE NATIONAL TRANSPORTATION SYSTEMS CENTER			
Designed by: D. WNTLE	 US EPA Region VIII Denver, Colorado  LIBBY ASBESTOS PROJECT LIBBY, MONTANA				
Drawn by: M. KUZMAK					
Checked by: G. McKENZIE	FLOWER CREEK REMEDIATION AND RESTORATION PLAN				
Submitted by: T. WALL					
Scale: AS NOTED	Sheet number: RR-6	Plot Scale: 1 : 1	Design File: FLOWER_CREEK.DWG		
Date: JUNE 20, 2008	Dwg. No.:	File No.:			



GENERAL NOTES:

- D
- C
- B
- A
1. FLOWER CREEK HAS BEEN INSPECTED USING STANDARD OPERATION PROCEDURE CDM LIBBY-06.
  2. THE 'CONTRACT DOCUMENTS', REFERENCED HEREIN, INCLUDE THE DESIGN ANALYSIS REPORT (DAR), THE RESPONSE ACTION WORK PLAN (RAWP) WITH APPLICABLE ADDENDA, SPECIFICATIONS AND DRAWINGS. THESE DOCUMENTS SHALL BE PROVIDED TO THE CONTRACTOR BY THE GOVERNMENT.
  3. THE CONTRACTOR SHALL PERFORM THE WORK WHILE MINIMIZING ENVIRONMENTAL POLLUTION AND DAMAGE AS THE RESULT OF CONSTRUCTION OPERATIONS. THE ENVIRONMENTAL RESOURCES WITHIN THE PROJECT BOUNDARIES AND THOSE AFFECTED OUTSIDE THE CONSTRUCTION LIMITS SHALL BE PROTECTED DURING THE ENTIRE DURATION OF THIS PROJECT.
  4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE MINIMUM SECURITY TO SECURE THE WORK AREA, AS WELL AS THE CONTRACTOR'S FACILITIES AND EQUIPMENT WITHIN THE LIMITS OF THIS CONTRACT.
  5. TOPOGRAPHIC SURVEYS WERE PERFORMED BY J.R.S. SURVEYING, INC. OF BONNERS FERRY, IDAHO. HORIZONTAL POSITION OF THE SURVEY IS BASED ON MONTANA STATE PLANE COORDINATE SYSTEM, LAMBERT CONFORMAL CONIC PROJECTION, NAD1983 (CONUS). SURVEYED ELEVATIONS AREA BASED ON THE NAVD88 DATUM. SURVEYED PLANS INCLUDE PROPERTY BOUNDARIES AND/OR DETAILS FOR THE EXCAVATION AREAS ONLY. SURVEYED DRAWINGS ARE NOT WARRANTED TO BE COMPLETE, BUT ARE SUITABLE FOR CONSTRUCTION PLANNING PURPOSES.
  6. THE CONTRACTOR IS RESPONSIBLE FOR ALL PROJECT SAFETY AS DETAILED IN THE GOVERNMENT APPROVED SITE HEALTH AND SAFETY PLAN.
  7. THE GOVERNMENT WILL OBTAIN AGREEMENTS NECESSARY TO ACCESS PROPERTIES. THE CONTRACTOR IS NOT ALLOWED TO PERFORM WORK ON ANY PROPERTY WITHOUT AN ACCESS AGREEMENT.
  8. THE CONTRACTOR SHALL HAVE A COPY OF THE PROJECT DOCUMENTS AT THE WORK AREAS AT ALL TIMES.
  9. THE CONTRACTOR SHALL USE CONSTRUCTION EQUIPMENT THAT IS SUITABLE FOR USE IN A RESIDENTIAL SETTING. THE CONSTRUCTION EQUIPMENT SHALL BE IN GOOD WORKING ORDER AND SHALL BE EQUIPPED TO MEET THE NOISE REDUCTION REQUIREMENTS SPECIFIED IN THE CONTRACT DOCUMENTS.
  10. NOTES INCLUDED HERE APPLY TO ALL SHEETS UNLESS OTHERWISE NOTED. REFER TO CONTRACT DOCUMENTS FOR ADDITIONAL INFORMATION.

REMEDIATION NOTES:



- D
- C
- B
- A
1. THE CONTRACTOR SHALL INSTALL AND MAINTAIN APPROPRIATE EROSION AND SEDIMENT CONTROLS (I.E. SILT FENCES, TEMPORARY WATER RETENTION BERMS, EROSION CONTROL MATS) PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES. INSTALLATION AND MAINTENANCE SHALL MEET THE MINIMUM REQUIREMENTS ESTABLISHED IN THE CONTRACT DOCUMENTS.
  2. THE CONTRACTOR SHALL PERFORM ALL SITE PREPARATION AND DECONTAMINATION ACTIVITIES PRIOR TO REMOVAL OF CONTAMINATED MATERIAL.
  3. THE REMOVAL CONTRACTOR WILL PROVIDE THE WATER SOURCE FOR PERSONNEL AND EQUIPMENT DECONTAMINATION. DECONTAMINATION WATER WILL BE CAPTURED AND DISPOSED OF PROPERLY.
  4. DUST SUPPRESION MUST BE MAINTAINED SO THAT VISIBLE EMISSIONS ARE KEPT TO A MINIMUM THROUGHOUT CONSTRUCTION ACTIVITIES AND WILL NOT LEAVE THE SITE PERIMETER.
  5. THE CONTRACTOR SHALL DETERMINE THE MOST APPROPRIATE METHOD OF ACCESSING THE EXCAVATION AREAS, AND SHALL RESTORE ACCESS AREAS TO THEIR ORIGINAL CONDITION. THIS INCLUDES, BUT IS NOT LIMITED TO, DRIVEWAYS, YARD AREAS, AND FENCES.
  6. SOME CLEARING ALONG PROPOSED SITE ACCESS (AREAS E, F, AND K) MAY BE REQUIRED.
  7. THE APPROXIMATE LOCATION OF CONTAMINATED MATERIAL SHOWN ON THE CONTRACT DRAWINGS DEFINES THE BOUNDARY WHERE RIPRAP CONTAINING LIBBY AMPHIBOLE WAS REPORTED.
  8. THE CONTRACTOR SHALL REMOVE AND DISPOSE ALL CONTAMINATED RIPRAP, AS DIRECTED BY THE GOVERNMENT REPRESENTATIVE. AN ADDITIONAL 6 INCHES OF SOIL BENEATH THE RIPRAP WILL ALSO BE EXCAVATED.
  9. CONFIRMATION SOIL SAMPLES WILL BE COLLECTED TO DETERMINE EXTENT OF RESIDUAL CONTAMINATION. ADDITIONAL EXCAVATION WILL BE COMPLETED IN ACCORDANCE WITH THE RAWP REVISION 2 AND AS DIRECTED BY THE GOVERNMENT REPRESENTATIVE.
  10. MISCELLANEOUS CONTAMINATED RIPRAP BOULDERS (AREA I) WILL BE LOCATED BY THE GOVERNMENT REPRESENTATIVE. THESE CONTAMINATED BOULDERS WILL BE REMOVED WITH NO RESTORATION REQUIRED.
  11. REMOVAL OF CONTAMINATED MATERIAL OUTSIDE OF THE DEFINED BOUNDARY MAY BE REQUIRED AS DETERMINED BY VISUAL INSPECTION AND CONFIRMATION SOIL SAMPLING CONDUCTED DURING EXCAVATION ACTIVITIES. VISUAL INSPECTIONS AND CONFIRMATION SOIL SAMPLING SHALL BE CONDUCTED BY THE GOVERNMENT REPRESENTATIVE.
  12. ALL MOVEABLE SITE FIXTURES SHALL EITHER BE DISMANTLED/REMOVED, DISPOSED OF, AND REPLACED; OR REMOVED, DECONTAMINATED, AND TEMPORARILY RELOCATED FROM THE INITIAL EXCLUSION ZONE, UNLESS OTHERWISE INDICATED ON THE CONTRACT DRAWINGS. SITE FIXTURES THAT ARE NOT MOVEABLE SHALL BE PROTECTED IN-PLACE.
  13. ADDITIONAL SITE FIXTURES MAY REQUIRE PROTECTION OR REMOVAL IF EXCAVATIONS EXTEND BEYOND THE INITIAL EXCAVATION LIMITS OR IF THE GOVERNMENT REPRESENTATIVE IDENTIFIES ADDITIONAL SITE FIXTURES DURING CONSTRUCTION. REMOVAL, DISPOSAL, DECONTAMINATION, AND STORAGE OF ANY ADDITIONAL FIXTURES ENCOUNTERED DURING CONSTRUCTION, WHICH MAY OR MAY NOT BE IDENTIFIED ON THE CONTRACT DRAWINGS, SHALL BE HANDLED IN ACCORDANCE WITH THE DESIGN CRITERIA ESTABLISHED IN THE CONTRACT DOCUMENTS.

RESTORATION NOTES:

- D
- C
- B
- A
1. RESTORATION SHALL COMMENCE ONLY AFTER EXCAVATION ACTIVITIES ARE COMPLETED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
  2. THE CONTRACTOR SHALL MAINTAIN ALL EROSION AND SEDIMENT CONTROLS PREVIOUSLY INSTALLED DURING EXCAVATION ACTIVITIES, THROUGHOUT THE DURATION OF RESTORATION ACTIVITIES. INSTALLATION AND MAINTENANCE SHALL MEET THE MINIMUM REQUIREMENTS ESTABLISHED IN THE CONTRACT DOCUMENTS.
  3. EMBANKMENT AREAS WILL BE RESTORED AND COMPACTED WITH STRUCTURAL FILL AND RIPRAP MATERIAL, AS DESIGNATED ON THE DETAIL DRAWING. THE EMBANKMENT WILL BE RESTORED TO ORIGINAL LINES AND GRADES.
  4. AREAS ALONG THE TOP OF BANK OR AWAY FROM THE EMBANKMENT WILL BE RESTORED AND COMPACTED WITH SPECIFIED BACKFILL (I.E. COMMON FILL, TOPSOIL, HYDROSEED) TO MATCH ORIGINAL CONDITIONS, AS DIRECTED BY THE GOVERNMENT REPRESENTATIVE.
  5. RESTORED MATERIALS WHICH DO NOT MEET THE APPROVAL OF THE GOVERNMENT REPRESENTATIVE, AS DETERMINED BY THE REQUIREMENTS OF THE CONTRACT DOCUMENTS, ARE SUBJECT TO REPLACEMENT AND REINSTALLATION BY THE CONTRACTOR.
  6. THE CONTRACTOR SHALL RESTORE ALL TEMPORARILY DISPLACED SITE FIXTURES TO THEIR ORIGINAL LOCATIONS, AND IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. ANY SITE FIXTURES SPECIFIED TO BE REPLACED ON THE CONTRACT DRAWINGS SHALL BE REPLACED IN-KIND.

BEST MANAGEMENT PRACTICE NOTES:

- D
- C
- B
- A
1. EQUIPMENT USED NEAR THE WATER WILL BE CLEANED PRIOR TO CONSTRUCTION.
  2. WORK WILL BE CONDUCTED DURING A PERIOD OF LOW FLOW.
  3. BIODEGRADABLE HYDRAULIC FLUIDS WILL BE USED IN MACHINERY WHERE APPROPRIATE.
  4. REFUELING WILL OCCUR ON THE BACKSIDE OF THE LEVEE OR ON ESTABLISHED STAGING AREAS.
  5. CONSTRUCTION EQUIPMENT SHALL BE REGULARLY CHECKED FOR DRIPS OR LEAKS.
  6. AT LEAST ONE FUEL SPILL KIT WITH ABSORBENT PADS WILL BE ONSITE AT ALL TIMES.
  7. DRIVE TRAINS OF EQUIPMENT WILL NOT OPERATE IN THE WATER.

Revisions			
Symbol	Descriptions	Date	Approved
CDM Federal Programs Corporation		 U.S. DEPARTMENT OF TRANSPORTATION JOHN A. VOLPE NATIONAL TRANSPORTATION SYSTEMS CENTER	
Designed by: D. WNTLE	 LIBBY ASBESTOS PROJECT LIBBY, MONTANA		
Drawn by: M. KUZMIK			
Checked by: G. McKENZIE	FLOWER CREEK GENERAL NOTES		
Submitted by: T. WALL	Scale: AS NOTED	Sheet number: G-1	Plot Scale: 1 : 1
	Date: JUNE 20, 2008	Design File: FLOWER_CREEK_NOTES.DWG	File No.:
	Dwg. No.:		



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D

D

C

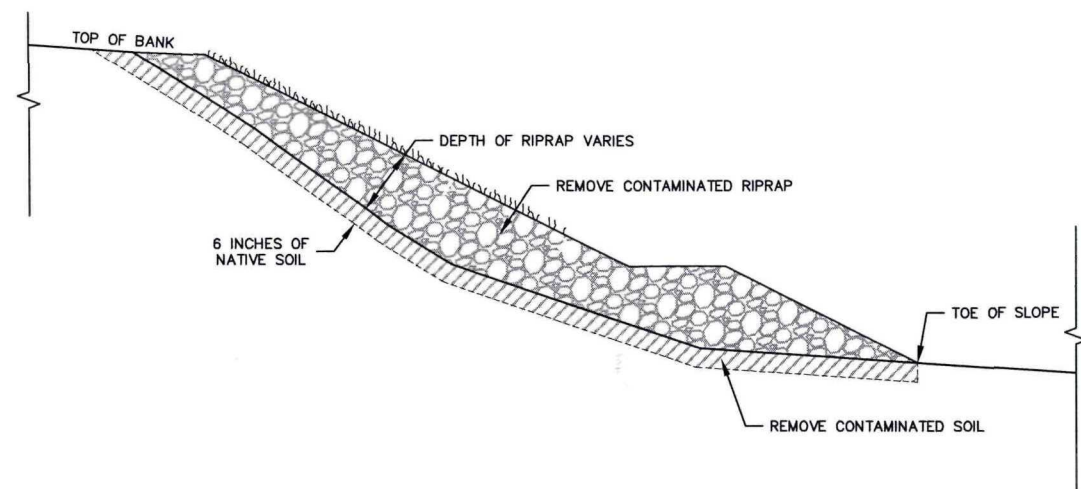
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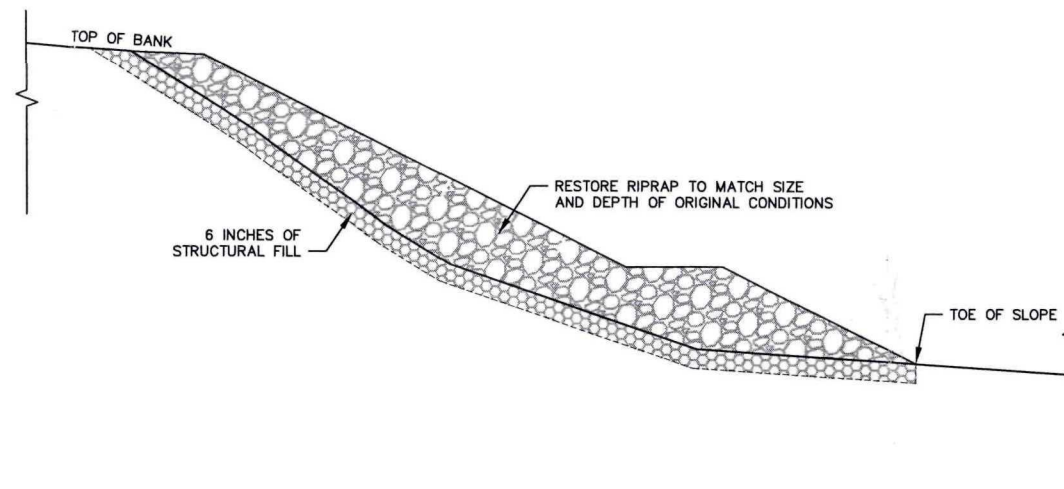
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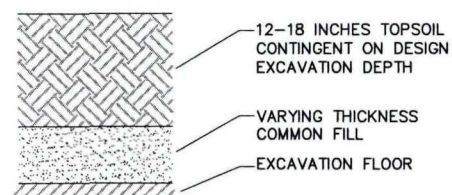
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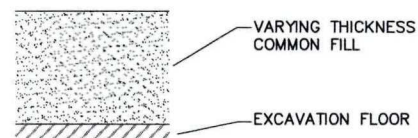
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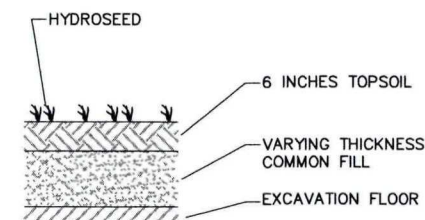
BANK RESTORATION SECTION (TYPICAL)

SECTION 2  
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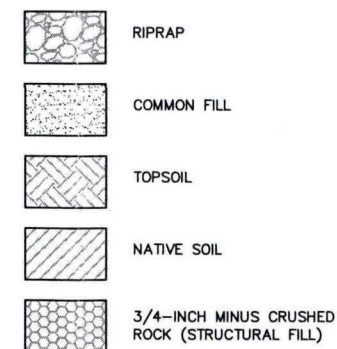
TOPSOIL RESTORATION SECTION (TYPICAL)

SECTION 3  
NTS



COMMON FILL RESTORATION SECTION (TYPICAL)

SECTION 4  
NTS

YARD RESTORATION SECTION (TYPICAL)

SECTION 5  
NTS

Revisions			
Symbol	Descriptions	Date	Approved

CDM Federal Programs Corporation		 U.S. DEPARTMENT OF TRANSPORTATION JOHN A. VOLPE NATIONAL TRANSPORTATION SYSTEMS CENTER		
Designed by: D. WINTLE	 US EPA Region VIII Denver, Colorado	LIBBY ASBESTOS PROJECT LIBBY, MONTANA		
Drawn by: M. KUZMIAK		FLOWER CREEK DETAILS		
Checked by: G. McKENZIE		Scale: AS NOTED	Sheet number: D-1	Plot Scale: 1 : 1
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